EXHIBIT G

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

IN RE PUDA COAL SECURITIES INC. *et. al*. LITIGATION	Case No: 1:11-CV-2598 (KBF) CLASS ACTION

REPORT ON AGGREGATE DAMAGES

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JUNE 11, 2014

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SCOPE OF PROJECT AND REPORT

1. I was asked by The Rosen Law Firm, P.A., counsel for the Plaintiffs, to provide an estimate of aggregate damages attributable to the alleged misconduct of Ming Zhao and Puda Coal, Inc. ("Puda Coal" or "The Company") to common stock holders of Puda Coal from 13 November 2009 through 7 April 2011, the portion of the Proposed Class Period[1] during which shares of Puda Coal traded on the NYSE Amex LLC Exchange (the "NYSE Amex Class Period").[2] I was also asked to determine an approximate estimate of aggregate damages to holders of call options on Puda Coal common stock as well as aggregate damages to writers of put options on Puda Coal stock.
2. Toward these ends, I relied upon the per share damage estimates and per contract damage estimates provided in the Expert Report of Gregg A. Jarrell ("Jarrell Report"). [3] Dr. Jarrell assumed liability of Mr. Ming Zhao and Puda Coal (known as the Defaulted Defendants), and determined that artificial inflation attributable to the liability of these Defendants was present in the prices of Puda Coal common stock over the period 13 November 2009 through 8 April 2011. Dr. Jarrell determined that this artificial inflation was consistent with a true value of zero for Puda Coal common stock over the NYSE Amex Class Period.
3. Dr. Jarrell observed that trading in Puda Coal stock was halted on the day after the corrective disclosure on 8 April 2011, and did not resume until 18 August 2011. Trading in Puda Coal stock then halted again on 19 August 2011, and did not resume again until 2 September 2011, after which trading continued. According to Dr. Jarrell, "[h]ow the PSLRA 1995 90-day average price is to be applied under these circumstances where the trading halt exceeds 90 days is solely a legal determination, because the PSLRA 1995 90-day average price is a legislatively determined limitation."[4] For purposes of this analysis, I have used two alternative prices suggested by Dr. Jarrell for the PSLRA 1995 price: $4.10,[5] which was the closing price when trading resumed on 18 August 2011, and $0.59,[6] which

[1] The Consolidated Complaint, dated 9 February 2012, defines the Class Period as 13 November 2009, through 3 October 2011 (the "Complaint").
[2] See Complaint, ¶¶ 143 and 150, and Company SEC filings.
[3] Expert Report of Gregg A. Jarrell, dated 7 January 2014.
[4] Jarrell Report, ¶69.
[5] Jarrell Report, ¶69.
[6] Jarrell Report, ¶69.

was the 90-day average closing price beginning 2 September 2011 after the second trading halt.

4. I analyzed the price and volume behavior of the stock, and reviewed market data, SEC filings, and other pertinent data and documents. Exhibit-1 lists the documents I reviewed and relied upon in the course of this engagement.
5. This report presents my methodology, findings, and conclusions.
6. I understand that expert discovery is ongoing in this case. I reserve the right, in my sole discretion, to make any corrections or additions to my report, and to modify my opinion, should any new or additional information becomes available.

CREDENTIALS

7. I, Peter W. Lert, am an Affiliated Expert with Crowninshield Financial Research, Inc., a financial economics consulting firm. My curriculum vitae is attached as Exhibit-2.
8. I have over 24 years of experience in the financial services industry, including extensive experience with Fidelity Management and Research Corp, State Street Corp., Wells Fargo Corp, and other investment management firms. I also have Federal government experience with the U.S. Securities and Exchange Commission and the U.S. Congress.
9. As an investment management professional I have over 10 years of experience with several firms as a Portfolio Manager for a variety of institutional clients and across a wide range of investment strategies, including both U.S. and global securities. For over 23 years I developed and applied quantitative investment strategies and analytics in support of investment decision-making, trading, regulatory compliance, risk management, sales and marketing, and product management.
10. I established and led the research and analysis effort at Fidelity for nearly 10 years which supported Equity Trading for the entire Fund complex, encompassing over $1 trillion in principal value and over 500 million transactions per year. As the Manager of Trading Analysis Services I helped establish performance measures for improved trading performance and broker management, and our research supported Operating Committee long-range planning as well as operating decisions, fund pricing decisions, and corporate litigation strategy.

11. I have over 10 years of experience in the Portfolio Strategist (or Portfolio Specialist) role, representing the investment team to institutional clients and their investment consultants, developing analytics to monitor and communicate investment process details as well as comparisons to other strategies, all within the regulatory frameworks of both the U.S. Securities and Exchange Commission and the Financial Industry Regulatory Authority.
12. I hold a Ph.D. from the University of California, San Diego, in Theoretical Chemistry, and a Bachelor of Science degree from the University of Virginia, in Chemistry. I also hold the Chartered Financial Analyst ("CFA") designation, granted by the CFA Institute.
13. The CFA designation is the premier credential for financial analysts, worldwide. In order to receive this credential, applicants must pass a series of three exams covering such topics as equity analysis, fixed income analysis, financial valuation, business analysis, quantitative methods, investment analysis, portfolio management, risk management, financial accounting, and ethical and professional standards. Candidates must also have extensive work experience in the investment management field in order to quality for this designation.
14. I am an active member of the CFA Institute and the Boston Security Analysts Society, where I have served as a member of the education committee and quantitative subcommittee.
15. For over five years I taught in the Boston Security Analysts Society CFA Review Program, and for two years I taught in the Boston University CFA Review Program – two of the leading review programs that prepare candidates for the CFA exams.
16. I have on several occasions organized and taught courses offered through the Boston Securities Analysts Society for interested members of the profession.
17. For several years I have served as an Associate Editor of the *Journal of Trading*, a publication of Institutional Investor Journals.
18. I have published in the field of finance, in a publication of Institutional Investor Journals, Inc. I drafted one chapter in the book *The Mutual Fund Industry* in support of the author, Mr. Robert Pozen. I have presented research at a conference sponsored by ITG, Inc.
19. I have also published in several scientific journals, in numerous classified documents, and in reports published by the Office of Technology Assessment of the U.S. Congress.

20. My firm is being compensated at a rate of $575 per hour for my work on this matter, and my compensation is not contingent on my findings or on the outcome of this matter. I am an employee of the consulting firm Crowninshield Financial Research, which receives compensation for the work performed by analysts who assist me on this case.

CONCLUSIONS

21. Aggregate damages to investors who purchased Puda Coal common stock, estimated by the two-trader proportional trading model, attributable to the alleged misrepresentations and omissions of the Defaulted Defendants. estimated conservatively and using the PSLRA 1995 look back price of $0.59, amount to $197.1 million exclusive of prejudgment interest. When computed using the alternative PSLRA 1995 price of $4.10, the estimate of aggregate damages amounts to $144.2 million exclusive of prejudgment interest.

22. Aggregate damages to the holders of call options and to the writers of put options on Puda Coal common stock, attributable to alleged misrepresentations and omissions of the Defaulted Defendants, are estimated to be $39.6 million exclusive of prejudgment interest using the PSLRA 1995 look back price of $0.59 for the stock. When computed using the alternative PSLRA 1995 look back price of $4.10 for the stock, the options aggregate damages estimate amounts to $27.8 million exclusive of prejudgment interest.

23. These results are summarized in Table 1 below:

Table 1. Summary of Estimated Damages for Puda Coal Common Stock and Related Options Contracts.

Specifications:		
Class Period Start Date	11/13/2009	11/13/2009
Class Period End Date	4/8/2011	4/8/2011
PSLRA 1995 Terminal Value	$0.59	$4.10
Results:		
Stock-Related Damages*	**$ 197.1**	**$ 144.2**
Options-Related Damages**	**$ 39.6**	**$ 27.8**
Total Estimated Damages	**$ 236.7**	**$ 172.0**

Notes:

* Damages are estimated using a two-trader proportional trading model.

** Approximate damage estimates.

DAMAGE COMPUTATION

Per Share Damage Formula

24. Dr. Jarrell estimated the Section 10(b) damages attributable to the misrepresentations and omissions of the Defaulted Defendants with the hypothetical assumption "that the Defaulted Defendants disclosed in its SEC Form 10-Q filing on November 13, 2009 that Puda Coal owned no assets indirectly or directly and had zero stockholders' equity."[7] Dr. Jarrell opines that, subsequent to this hypothetical corrective disclosure, the true value of Puda Coal stock was zero.[8]

25. The measure of damages generally applied in Section 10(b) cases is the reduction in the dollar inflation over an investor's holding period (the economic/inflation loss). The Class Certification order specifies that in-and-out traders prior to the end of the Class Period are not to be considered as having been damaged,[9] therefore, I estimated damages only for the shares purchased during the Class Period and held until the final day of the Class Period, 8 April 2011. These shares were either sold on that date, or held after that date.

26. For shares held after the final corrective disclosure, the Private Securities Ligation Reform Act of 1995 ("PSLRA 1995") limits the damages subject to an investment loss cap based on the price paid for the stock and the market prices prevailing subsequent to the disclosure:

> "[T]he award of damages to the plaintiff shall not exceed the difference between the purchase or sale price paid or received, as appropriate, by the plaintiff for the subject security and the mean trading price of that security during the 90-day period beginning on the date on which the information correcting the misstatement or omission that is the basis for the action is disseminated to the market."
> **15 U.S.C. § 78u-4(e) (2).**

27. Trading in Puda Coal stock was halted by the New York Stock Exchange prior to the market open on 11 April 2011, the next trading day after the corrective disclosure on 8

[7] Jarrell Report, ¶60.
[8] Jarrell Report, ¶65.
[9] Class Certification Opinion and Order, dated 10 October 2013, p. 38.

April 2011.[10] This halt remained in effect until 18 August 2011,[11] well beyond the 90-day period following the final corrective disclosure ("the bounce-back period") referenced in PSLRA 1995. Dr. Jarrell provided two alternative prices to consider in the application of the PSLRA 1995 90-day rule: $4.10 and $0.59. The first price represents the market closing price on 18 August 2011, the first trading day after the 90 day period. The second price represents the average closing price experienced by Puda Coal stock in the 90 days after it began daily trading again on 2 September 2011.[12] Both prices are used in calculating damages for shares owned on the final day of the Class Period.

28. Dr. Jarrell further opines that, consistent with the U.S. Supreme Court decision in *Dura Pharmaceuticals*,[13]

> "…damages per-share appropriate for the Defaulted Defendants equals the lesser of: i) the purchase price minus the sale price; and ii) the purchase price minus the PSLRA price. These damages apply to U.S. investors who purchased Puda Coal common stock on or after November 13, 2009, and who held that stock at least until the start of trading on 8 April 2011, so that they suffered a stock-price drop on 8 April 2011."
> **Jarrell Report, ¶67.**

29. Consistent with Dr. Jarrell's opinion, damage on any share purchased during the Class Period is the lesser of the economic/inflation loss (calculated as the difference between the purchase price and the PSLRA 1995 terminal price provided by Dr. Jarrell) and the investment loss (calculated as the difference between the purchase price and the sale price, applicable only for shares sold on the final day of the Class Period).

Per Contract Damage Formula for Options Contracts

30. As Dr. Jarrell opined, holders of call options on Puda Coal stock which were outstanding at the start of trading on 8 April 2011 were also subject to damages, as were writers of the existing put options on Puda Coal stock. As with the consideration of stock damages, Dr.

[10] "Stock Halt Tests Options Traders: Exercise or Let Expire?" by Brendan Conway, *The Wall Street Journal*, 15 April 2011.
[11] "Puda Coal Securities Trading Suspended by SEC Until Sept. 1," by Louisa Fahy, *Bloomberg*, 19 August 2011.
[12] "SEC Suspends Trading in Securities of Puda Coal Until Sept. 1," SEC press release, 19 August 2011.
[13] *Dura Pharmaceuticals, et al., v. Broudo, et al*., 544 U.S. 336, 125 (Supreme Court of the United States, 1627, April 19, 2005.)

Jarrell opines that per contract damages to options contracts reflect the theory that the true value of Puda Coal's stock was zero throughout the Class Period.

31. According to the Class Certification opinion, only contracts in existence at the start of trading on 8 April 2011 are considered as having been damaged..

32. For holders of call options, the effect of the PSLRA 1995 look back provision limits the damages on contracts not closed prior to the end of trading on 8 April 2011. After that date call options expiring "in the money" could be exercised to recover their intrinsic value, if any. Dr. Jarrell therefore opined that a "reasonable" PSLRA 1995 limiting price for a call option would be the greater of: i) zero, and ii) the PSLRA 1995 stock price less the strike (exercise) price of the option contract.[14]

33. In addition to holders of call options, writers of put options which were extant on 8 April 2011 were also damaged by having sold their options at lowered prices. For put options closed (bought back) on 8 April 2011 the damages would be the greater of i) zero and ii) the cost of closing (buying) the option less the proceeds received earlier from selling the option, where both purchase and sale prices are given in Dr. Jarrell's report.

34. Damages to writers of put options which were not closed on 8 April 2011 are limited as well by PSLRA 1995 look-back provisions. Dr. Jarrell opined that a reasonable PSLRA 1995 limiting closing price for put options held at the end of trading on 8 April 2011 would be the greater of: i) zero, and ii) the strike price of the put option less the PSLRA 1995 stock price.

AGGREGATE DAMAGES

35. Counsel for the Plaintiffs asked me to provide an estimate of the aggregate damages suffered by all investors who bought Puda Coal stock during the NYSE Amex Class Period attributable to the alleged misrepresentations and omissions of the Defaulted Defendants. I was also asked to determine an approximate estimate of damages to purchasers of call options on Puda Coal common stock as well as damages to sellers of put options on Puda Coal stock.

[14] Jarrell Report, ¶80.

36. To estimate aggregate damages, it is necessary to estimate how many Puda Coal shares and options were bought on each day of the relevant Class Period and to estimate if and when those same shares and options were subsequently sold. This information is relevant, because the damage on each particular share or contract depends on when it was bought and when it was sold.

37. The two-trader proportional trading model estimates the requisite purchase and sale dates for all shares of common stock traded during the relevant Class Period, and is commonly used to provide estimates of aggregate damages in securities cases.

38. Estimates of purchase and sale dates for options contracts are based on a variety of assumptions that provide a narrow range of values.

Stock Damages: Two-Trader Proportional Trading Model

39. The two-trader proportional trading model recognizes that most stock trading volume is attributable to a relatively small subset of traders, while the remaining investors tend to have longer holding periods. Accordingly, market participants are divided into two groups – "traders," who trade frequently, and "holders," who trade less frequently.

40. The model employs parameter estimates for the percentages of outstanding shares held by each of the two groups, and the greater frequency of "trader" trades relative to "holder" trades.

41. The model then uses reported trading volume to estimate when share purchases were subsequently sold. Essentially, the model estimates the probability of any particular share being traded on a particular day, depending on whether the owner of the share is a "trader" or a "holder." Next, it applies this probability to estimate the number of shares that had been purchased on each prior day which are then re-traded on each respective subsequent day. The model's construction and operation are further detailed below.

Published Literature, Wide Use, and Acceptance by Courts

42. A proportional trading model, such as the two-trader proportional trading model I used, is a "representative agent" model which is a generally accepted model in finance and economics research. There are a multitude of seminal articles based on representative agent models. The groundbreaking article by Nobel Prize winner Robert E. Lucas, "Asset Prices in an Exchange Economy," published in the leading journal *Econometrica* [November

1978],[15] is but one such example that demonstrates the profession's acceptance of such models.

43. The basic one-trader and two-trader proportional trading models are presented in the *Litigation Services Handbook*, 3rd edition.[16]

44. I understand that the two-trader proportional trading model and its variants are widely used both by plaintiff and defense experts for calculating aggregate damages in the course of litigation, in settlement discussions, and for drafting plans of allocation subsequent to settlement.

45. Recent peer-reviewed research, including Feinstein, Hu, Marcus and Ali [2013],[17] shows that the two-trader model is a reliable and conservative estimate of damages in securities litigation cases.

46. Other published studies, such as Cone and Laurence [1994][18] and Furbush and Smith [1994],[19] have examined the model's use in securities litigation and have shown that two-trader models are more conservative and more accurate in estimating damages than are single trader proportional trading models.

47. Finnerty and Pushner [2003][20] and Barclay and Torchio [2001][21] are two more examples of published research on the model and its variants.

48. Bassin [2000][22] and Beaver, Malernee, and Keeley [1997][23] empirically tested two-trader models. Bassin and Beaver, *et al.*, used actual trading records to calibrate the parameters of two-trader models. I utilized the modeling and parameter estimates presented in the Beaver,

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[15] "Asset Prices in an Exchange Economy," by Robert E. Lucas, Jr., *Econometrica*, November 1978.
[16] "Securities Act Violations: Estimation of Damages," by Nicholas I. Crew, Patrick G. Goshtigian, Marnie A. Moore, and Atulya Sarin, chapter 17 in *Litigation Services Handbook*, 3rd edition, edited by Roman L. Weil, Michael J. Wagner, and Peter B. Frank, John Wiley & Sons Inc., 2001.
[17] "Underestimation of Securities Fraud Aggregate Damages Due to Inter-Fund Trades," by Steven Feinstein, Gang Hu, Mark Marcus, and Zann Ali, *Journal of Forensic Economics*, Vol. 24, No. 2, Sept. 2013, p.161-173
[18] "How Accurate Are Estimates of Aggregate Damages in Securities Fraud Cases?," by Kenneth R. Cone and James E. Laurence, *Business Law*, 1994.
[19] "Estimating the Number of Damaged Shares in Securities Fraud Litigation: An Introduction to Stock Trading Models," by Dean Furbush and Jeffrey W. Smith, *Business Law*, 1994.
[20] "An Improved Two-Trader Model for Measuring Damages in Securities Fraud Class Actions," by John Finnerty and George Pushner, *Stanford Journal of Law, Business and Finance*, 2003.
[21] "A Comparison of Trading Models Used for Calculating Aggregate Damages in Securities Litigation," by Michael Barclay and Frank C. Torchio, *Law & Contemporary Problems*, 2001.
[22] "A Two Trader Population Share Retention Model for Estimating Damages in Shareholder Class Action Litigations," by William M. Bassin, *Stanford Journal of Business and Finance*, 2000.
[23] *Stock Trading Behavior and Damage Estimation in Securities Cases*, by William H. Beaver, James K. Malernee, and Michael C. Keeley, Cornerstone Research, 1997.

et al. model, which is widely used both by plaintiff and by defense experts to estimate aggregate damages.

49. In the following cases, courts have reviewed and accepted proportional trading models for estimating aggregate damages: *In re Oxford Health Plans, Inc.*, 244 F. Supp. 2d 247, 249-52 (S.D.N.Y. 2003); *Robbins v. Deloitte & Touche, LLP*, No. 90-896- -Civ-J-10, 1995 U.S. Dist. LEXIS 22424, at *1 (M.D. Fla. June 28, 1995), *rev'd on other grounds*, 116 F.3d 1441 (11th Cir. 1997); *In re Worldcom, Inc.*, No. 02 civ. 3288 (DLC), 2005 U.S. Dist. LEXIS 3143 at *5-*15 (S.D.N.Y. March 4,2005).

Application of the Two-Trader Proportional Trading Model

50. To estimate aggregate damages relative to the Defaulted Defendants, I constructed a 354 row by 352 column matrix whose entries show the estimates of how many shares purchased on each of the 352 trading days on or after the start of the Class Period on 13 November 2009 and prior to the end of the Class Period on 8 April 2011 were sold on each of the 353 trading days up through 8 April 2011.

51. The 354th row of the matrix shows how many shares purchased within the Class Period were still held at the conclusion of the Class Period, after which trading was suspended for more than 90 days.

52. Based on the parameters in the Beaver, *et al.* study, I assumed that 15.3% of outstanding shares were held by "traders" and the remaining 84.7% were held by "holders." Also based on their study, I assumed that a trader's share is 29 times more likely to be traded than is a holder's share.

53. Puda Coal was traded on the NYSE Amex Exchange, sometimes referred to as the NYSE MKT Exchange. Like the main New York Stock Exchange, the NYSE Amex Exchange uses a system of Designated Market Makers (DMMs, formerly known as "Specialists") to maintain an orderly market, such that DMM trades facilitate transfers of stock between other investors and do not themselves constitute trades for investment purposes. For this reason I adjusted total reported trading volume to remove the effect of the DMM trades. Average monthly DMM participation data were provided by the NYSE. I appropriately adjusted the trading data to remove one half of the DMM participation rate times the daily

volume.[24] This adjustment removed 5.5% to 11.9% of daily trading volume, depending on the particular month.

54. Share float for the Company was calculated by adding short interest to total shares outstanding and then reducing this amount by insider holdings and by the shares that the institutional holdings data indicated were owned by institutions and not traded during the Class Period. Insider holdings were obtained from Puda Coal annual reports filed with the SEC.[25]

55. To make the institutional holdings adjustment to float, I examined each institution's reported holdings on each quarterly reporting date from 31 December 2009[26] through 30 June 2011. I assumed that, for each institution, the respective minimum level of shares held across reporting dates was the amount each institution owned at the beginning of the Class Period and continued to hold throughout the Class Period and the following 90 days. I then summed these held shares across institutions to arrive at an aggregate estimate of shares owned by institutions prior to the Class Period and not traded during the Class Period and subsequent 90 days. This is the same methodology described by Barclay and Torchio [2001],[27] among others. The number of shares arrived at through this approach amounted to 0.033 million shares, which I removed from the public float quantity.

56. Reducing the float to account for institutional holdings in this manner is a conservative methodological approach – *i.e.* one that lowers estimated damages – for it reduces the number of shares that could have been damaged and increases the estimate of turnover among the remaining shares. This float reduction attributes reported volume to a smaller number of shares being traded, thereby limiting the number of unique shares that were purchased during the Class Period and hence damaged.

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[24] The data provided by the NYSE quote the DMM participation rate as the percentage of volume attributed to DMMs. DMM facilitation trading typically involves purchasing from one investor and selling to another, so that the net effect of a single trade between investors is reported as two trades, which are included in the DMM participation figure. Thus, the correction for DMM participation is to reduce the total reported volume by one-half of the DMM participation volume.

[25] According to Annual Statements filed on 31 March 2009, 31 March 2010, and 16 March 2011, insiders held 9,485,789 shares as of 30 July 2009 and 9,533,421 shares as of 17 March 2010 and 9,577,476 shares as of 7 March 2011, inclusive of a 7-for-1 reverse stock split effective 30 July 2009, respectively.

[26] Institutional holdings data was provided by the Vickers Corp. The earliest report of institutional holdings in Puda Coal is for the quarter ending 31 December 2009.

[27] "A Comparison of Trading Models Used for Calculating Aggregate Damages in Securities Litigation," by Michael Barclay and Frank C. Torchio, *Law & Contemporary Problems*, 2001.

57. This method for excluding shares held by institutions is a conservative approach also because it is possible that some institutions may have sold and then repurchased shares between the quarterly reporting dates. Having been bought at artificially inflated prices, such repurchased shares would have been damaged, and yet my approach excludes them. Furthermore, the removal of held shares from float is conservative in that the trading frequency parameters estimated by Beaver, *et al.*, which I likewise applied, were derived empirically from data that did not remove such float held by institutions.

58. The adjusted share float for Puda Coal was divided into shares owned by traders and shares owned by holders using the Beaver, et al. model parameters. For example, on 31 March 2010, total adjusted float was 10,474,051 shares. Of this amount 15.3%, equal to 1,602,530 shares, belonged to traders and the remaining 84.7%, or 8,871,521 shares, belonged to holders. As shares outstanding changed, the number of shares owned by each group was adjusted using these same percentages.

59. On each trading day, the probability of any particular trader's share being traded (or re-traded) is estimated as the ratio of traders' volume divided by the number of traders' shares. The probability of any particular holder's share being traded (or re-traded) is estimated as the ratio of holders' volume divided by the number of holders' shares.

60. Using these estimated probabilities for each day in the Class Period, the model indicates when previously purchased shares were later sold. The model also indicates the quantities of shares still held at the end of the Class Period, after which the trading halt was in effect.

61. Using the two-trader proportional trading model, I constructed a 354 by 352 element matrix whose entries show how many traders' shares purchased on each day were sold on each of the subsequent days (and held at the end of the final day). Another 354 by 352 element matrix shows how many holders' shares purchased on each day were sold on each subsequent day (and held at the end). A third matrix, the "buy/sell" matrix, sums the two.

62. To arrive at the estimate of total damages, I multiplied each element of the buy/sell matrix by the per share damage corresponding to the respective buy and sell dates, following Dr. Jarrell's report. Total damage to investors in the Plaintiff Class is found by summing the damages for all of the buy/sell trade dates.

63. As noted above, per share damages in this model are the lesser of economic/inflation losses and investment losses. In the present case, of all shares sold in the model, only shares sold

on the final day incur damage. Shares held on the final day and not sold are valued according to the PSLRA 1995 terminal value provided by Dr. Jarrell, and damages are calculated as the difference between the purchase price and the PSLRA 1995 terminal value.[28]

64. Assuming $0.59 as the PSLRA 1995 terminal value of shares still held at the end of the Class Period, the model estimates total damages suffered by Class members amounted to $197.1 million. Assuming a PSLRA 1995 terminal value of $4.10, the model estimates total damages suffered by Class members amounted to $144.2 million. These damage figures are exclusive of prejudgment interest.

Options Contract Damages

65. On any given trading day, the total number of open contracts for a particular listed option (by type of option, strike price, and expiration date) is known as the "open interest."[29] For listed options, such as for Puda Coal common stock, "[o]pen interest figures are released daily by the Exchanges, but they are always for the previous day."[30] This means that the open interest quoted for a given day (such as 8 April 2011) represents the total number of contracts in existence after the close of trading (and net of any options exercises) on the prior trading day (7 April 2011), and also therefore open as of the start of trading on 8 April 2011. In this case, the total quantity of options contracts damaged is given by the open interest on 8 April 2011, since only contracts held (or written) as of the start of trading on that date are included in the Class Certification.

66. I obtained options market trading data including volume and open interest for listed options on Puda Coal common stock from iVolatility.com for the Class Period. This data therefore specifies the number of damaged contracts for each series of options and, as noted above, Dr. Jarrell's report specifies the purchase price by date for each option. Therefore, in order to calculate total aggregate damages I must estimate the purchase dates for the contracts with open interest on 8 April 2011.

[28] If the purchase price is in fact less than the PSLRA 1995 terminal price then the calculated damage for such shares is zero.
[29] *Options, Futures, and Other Derivatives Eighth Edition*, 2012, J.C. Hull, Prentice-Hall, p. 204.
[30] "Using Open Interest As a Trading Tool," 2001, G. Kleinman, *CRB TRADER*, Vol. 10, No. 2 (Commodity Research Bureau).

67. To illustrate the calculation of options contract damages, consider the following subset of market data for a particular call option on Puda Coal common stock (the contract has an exercise price, or strike price, of $8 and an expiration date of 16 April 2011), as summarized in Table 2.

Table 2. Select market trade data for single Puda Coal call option contract.

Trade Date	Option Symbol	Expiration Date	Strike Price	Call / Put	Volume	Open Interest	Stock Price
4/1/2011	PUDA 110416C00008000	4/16/2011	8	C	0	64	12.19
4/4/2011	PUDA 110416C00008000	4/16/2011	8	C	0	64	11.46
4/5/2011	PUDA 110416C00008000	4/16/2011	8	C	0	64	10.77
4/6/2011	PUDA 110416C00008000	4/16/2011	8	C	0	64	9.8
4/7/2011	PUDA 110416C00008000	4/16/2011	8	C	484	64	9.1
4/8/2011	PUDA 110416C00008000	4/16/2011	8	C	1908	488	6
4/11/2011	PUDA 110416C00008000	4/16/2011	8	C	0	1477	

68. As seen in Table 2, the number of these call option contracts damaged is 488 (the quantity of open interest on 8 April 2011). Options contracts are created (and eliminated) during the day by the action of options traders, who can open and close positions as they trade. If a trader opens a new position by purchasing a call, the open interest increases by one. If that holder of the position subsequently sells the contract to a trader who had earlier written a contract (of the same type/strike/expiration), then both traders have closed their positions and open interest decreases by one. Typically, only options involving dividend payments or deep in the money and close to expiration are likely to be exercised early.[31] I have assumed that open interest is decreased only by reversing trades (except where it is implied by the data).

69. From the data above in Table 2, the trading on 7 April 2011 (the prior day), began with an open interest of 64 contracts and a total volume of 484 contracts traded throughout the day. It is possible that all 64 contracts in that day's open interest were held and not traded, in which case, the data for 8 April 2011 indicates that 424 (=488-64) new contracts were opened on 7 April 2011. This would imply that the remaining 60 (=484-424) trades

[31] See, for example, *Options, Futures, and Other Derivatives, Eighth Edition* (2012), J.C. Hull, Prentice Hall, p. 224-230, which shows that early exercise of call options is never optimal when the stock does not pay dividends.

included in the volume on 7 April 2011 had involved 30 contracts trading twice, opening and then closing positions and not affecting the open interest.[32] On the other hand, it is also possible that as few as 34 contracts from the prior day's open interest had been held and not traded, implying that 454 (=488-34) new contracts had been opened and the remaining 30 (=484-454) contracts included in the total volume were traded to close positions from the prior open interest. In summary, of the 488 contracts included in the open interest on 8 April 11, between 34 and 64 had been included in the open interest on 7 April 2011 and hence between 424 and 454 contracts were opened on 7 April 2011. Dr. Jarrell reports that the price for that contract on that date was $1.35.[33]

70. I used similar logic to determine the range of possible new trades in contracts for each trade day.[34] An estimate involving the largest holding-over of contracts per this logic which I have termed the "maximum-holding" estimate and an estimate involving the smallest logical holding-over (and largest possible sourcing of new contracts) which I have termed the "minimum-holding" estimate. In order to provide useful bounds on estimated damages I have produced a single overall damage estimate for each assumption, applying the maximum-holding or minimum-holding logic consistently for each day throughout the Class Period for each distinct options contract.

71. These minimum-holding and maximum-holding estimates each generate a schedule of the numbers of contracts that can be sourced on a given trade day to contribute to the total number of contracts damaged in the Class Period. Dr. Jarrell's report gives the prices of each of these contracts on each trade date. An estimate for aggregate damages to options contracts follows from specifying the number of contracts sourced from each trade day which contribute to the total number of damaged contracts. I have constructed these estimates by sourcing the total number of damaged contracts in four distinct ways: in order of increasing damages, in order of decreasing damages, in time order of latest to earliest, and in time order of earliest to latest.

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[32] More complex trading patterns are also possible, involving even more trades of a given contract, but such complexity would not affect this analysis.

[33] Jarrell Report, Exhibit 5.

[34] It can be seen from the data in Table 2 that apparent anomalies appear to be possible, such as how the odd number of contracts in open interest on 11 April 2011 for this option are possible given the prior day's volume and open interest. In this analysis I have addressed such data issues by assuming that contracts are exercised after the market close on the prior trading day.

72. Using Dr. Jarrell's per-contract damages, the minimum-holding and maximum-holding estimation approaches, and the four different source orderings, I have estimated aggregated damages to holders of call options and writers of put options in Puda Coal common stock, attributable to the Defaulted Defendants. Assuming $0.59 as the PSLRA 1995 terminal price for Puda Coal stock, an average estimate for total damages suffered by Class members amounts to $39.6 million. Assuming $4.10 as the PSLRA 1995 terminal price for Puda Coal stock, an average estimate for total damages suffered by Class members amounts to $27.8 million.

73. Table 3 below summarizes the damage estimates for options contracts attributable to Defaulted Defendants, showing the various results for maximum-holding and minimum-holding estimates for each of the four different source orderings. The resulting estimates of aggregate damages exhibit moderate variation by the different source orderings (standard deviation of 6-8%). The average maximum- and minimum-holding estimates differ by $1.6 million for the case of the higher PSLRA 1995 price, and by $4.0 million for the lower PSLRA 1995 price.

Table 3. Approximate Damage Estimates for Options Contracts Attributable to Defaulted Defendants.

Case 1 - PSLRA 1995 Price : $ 0.59

Estimated Damages ($ millions)

Options Damages Estimates	Source Order (Damages): Increasing	Decreasing	Latest	Earliest	Average
Maximum Holding	$ 40.9	$ 42.1	$ 41.4	$ 42.0	$ 41.6
Minimum Holding	$ 35.2	$ 39.8	$ 35.9	$ 39.5	$ 37.6
Average	**$ 38.1**	**$ 41.0**	**$ 38.6**	**$ 40.7**	**$ 39.6**

Case 2 - PSLRA 1995 Price : $ 4.10

Estimated Damages ($ millions)

Options Damages Estimates	Source Order (Damages): Increasing	Decreasing	Latest	Earliest	Average
Maximum Holding	$ 27.9	$ 29.1	$ 28.4	$ 29.0	$ 28.6
Minimum Holding	$ 24.6	$ 29.2	$ 25.3	$ 28.9	$ 27.0
Average	**$ 26.3**	**$ 29.2**	**$ 26.8**	**$ 29.0**	**$ 27.8**

LIMITING FACTORS

74. This report is furnished solely for the purpose of court proceedings in the above named matter and may not be used or referred to for any other purpose. The analysis and opinions contained in this report are based on information available as of the date of this report. I reserve the right to supplement or amend this report, including in the event additional information becomes available.

Peter W. Lert, Ph.D., CFA

Exhibit-1

Documents and Other Information Reviewed and Relied Upon

CASE DOCUMENTS

- Consolidated Complaint, dated 9 February 2012.
- Expert Report of Gregg A. Jarrell, dated 7 January 2014.
- Class Certification Opinion and Order, dated 10 October 2013.

NEWS ARTICLES / PRESS RELEASES

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- Puda Coal Securities, Inc. Form 10-Q for the Quarter Ended 31 March 2010, filed 17 May 2010.
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DATA AND DATABASES

- Bloomberg
- CRSP (Center for Research in Security Prices)
- iVolatility
- Vickers

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LEGAL CASES

- *Dura Pharmaceuticals, et al., v. Broudo, et al*., 544 U.S. 336, 125 (Supreme Court of the United States, 1627, April 19, 2005).
- *In re Oxford Health Plans, Inc.*, 244 F. Supp. 2d 247
- *Robbins v. Deloitte & Touche, LLP*, No. 90-896- -Civ-J-10, 1995 U.S. Dist. LEXIS 22424, at *1 (M.D. Fla. June 28, 1995), *rev'd on other grounds*, 116 F.3d 1441 (11th Cir. 1997)
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- "PUDA COAL INC. – TRADING SUSPENSION/DELAYED SETTLEMENT OPTION SYMBOL: PUDA," The Options Clearing Corporation memo #29362, 22 August 2011.
- Any other documents and data cited in the report.

Exhibit-2

Curriculum Vitae
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Dr. Lert has over 24 years of experience in the financial services industry, including extensive experience with Fidelity Management and Research Corp, State Street Corp., Wells Fargo Corp, and other investment management firms. He has Federal government experience with the U.S. Securities and Exchange Commission and the U.S. Congress. Dr. Lert has published in several fields, including the financial literature, and serves on the editorial staff of the Institutional Investors' ***Journal of Trading***. He is an active member of the Boston Security Analysts Society and has taught courses for Charterer Financial Analyst candidates and others.

EDUCATION

1978 UNIVERSITY OF CALIFORNIA, SAN DIEGO
Ph.D. in Theoretical Chemistry

1973 UNIVERSITY OF CALIFORNIA, SAN DIEGO
M.S. in Chemistry

1971 UNIVERSITY OF VIRGINIA
B.S. in Chemistry (High Distinction, Department Top Graduate Prize, Echols Scholar)

ACADEMIC RESEARCH EXPERIENCE

1979-1981 MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Cambridge, MA
Post Doctoral Fellow, Department of Chemistry
I.B.M. Postdoctoral Fellowship 1979-80
American Chemical Society Postdoctoral Fellowship 1980-81

1978-1979 UNIVERSITY OF CALIFORNIA, SAN DIEGO
La Jolla, CA
Post Graduate Research Chemist, Department of Chemistry

Exhibit-2

Curriculum Vitae
Peter Lert, Ph.D., CFA
Senior Financial Expert and Senior Analyst

PROFESSIONAL EXPERIENCE

2014 – Present	CROWNINSHIELD FINANCIAL RESEARCH Wellesley, MA Senior Analyst / Expert
2013 – 2014	US SECURITIES AND EXCHANGE COMMISSION Boston, MA Examiner, Quantitative Analyst
2012	THE BOSTON COMPANY ASSET MANAGEMENT Boston, MA Director, Portfolio Strategist
2011-2012	ARONSON JOHNSON ORTIZ Philadelphia, PA Research Consultant
2006-2011	WELLS FARGO CORP. (WELLS CAPITAL MANAGEMENT) Boston, MA Senior Portfolio Specialist, Global Quantitative Equities
2004-2006	SENTINEL ASSET MANAGEMENT Montpelier, VT Director, Investment Strategy and Portfolio Manager
2006-2011	STATE STREET CORP. (STATE STREET GLOBAL ADVISORS) Boston, MA Portfolio Manager and Product Engineer, Global Enhanced Equities
1992-2002	FIDELITY INVESTMENTS Boston, MA Vice President, Strategic Services - Fidelity Management Trust Company (2002) Manager, Trading Analysis Services - Fidelity Management & Research Company (1992-2002)
1990-1992	BATTERYMARCH FINANCIAL MANAGEMENT Boston, MA Equity Analyst and Equity Trading Manager

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1987-1990	M.I.T. LINCOLN LABORATORY Lexington, MA Member of Technical Staff
1984-1987	U.S. CONGRESS Washington, DC Senior Analyst, Office of Technology Assessment
1981-1984	INSTITUTE FOR DEFENSE ANALYSES Alexandria, VA Analyst

PROFESSIONAL DESIGNATIONS

1993 Awarded the Chartered Financial Analyst designation by the Association for Investment Management and Research.

RESEARCH AWARDS

1976 1978	University of California Dissertation Fellowship
1979-1980	I.B.M. Postdoctoral Fellowship
1980-1981	American Chemical Society Postdoctoral Fellowship

PAPERS AND PUBLICATIONS

"Brokerage Transactions for Mutual Funds" (Chapter), in ***Mutual Fund Business, 2nd Edition***, R. Pozen, South-Western College Publications, June 2002.

"Methods of Measuring Transaction Costs", P. Lert, in ***Transaction Costs: A Cutting-Edge Guide to Best Execution***, (B. R. Bruce, Ed), Institutional Investor Journals, Spring 2001

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"Linear Response Theory of Surface Electronic Structure," P.W. Lert and J.H. Weare, ***Journal of Physical Chemistry*** 11, 1865 (1978).

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"Static Semiclassical Response of a Bounded Electron Gas. I," P.W. Lert and J.H. Weare, ***Journal of Chemical Physics*** 68, 2221 (1978).

Linear Response Theory for Metal Surfaces, P. W. Lert, (Doctoral Dissertation) Univ. of Calif. San Diego, January 1978

"Floating Spherical Gaussian Calculations on Systems of Protons and Electrons," C. Trindle and P.W. Lert, ***International Journal of Quantum Chemistry***. 5, 329 (1971).

"Molecular Orbital and Mapping Study of the Allowed Diels Alder Reactions of Furan, Thiophene, and Thiophene Dioxide," P.W. Lert and C. Trindle, ***Journal of the American Chemical Society***. 93, 6392 (1971).

LIMITED DISTRIBUTION PUBLICATIONS

Sensor-to-Sensor Correlation and Discrimination: Effects on Handover and Homing, P. Lert and P. Chau, M.I.T. Lincoln Laboratory Project Report, July 1990.

Adaptive Defense and Sensor Limitations: Effects of Imperfect Impact Point Prediction, P. Lert, M.I.T. Lincoln Laboratory Technical Report, April 1990.

Adaptive Defense and Sensor Limitations: Effects of Decoys and Discrimination, P. Lert, M.I.T. Lincoln Laboratory Technical Report, February 1990.

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Tactical Reconnaissance, Surveillance and Target Acquisition Study, J.L. Jones, P.W. Lert, and D.L. Ockerman, Institute for Defense Analyses, June, 1984.

Attack of Warsaw Pact Ground Forces Beyond the Direct Fire Battle Zone: Selected Topics Regarding the Potential of Standoff Weapons, M.C. Zabek, P.W. Lert, and L.D. Simmons, Institute for Defense Analyses, May, 1984.

PROFESSIONAL ACTIVITIES

Journal of Trading
Associate Editor, 2010-Present

Boston Security Analysts Society
Quantitative Program Subcommittee, 2011-Present
Education Committee, 1998-2006
Instructor, "Equity Trading for Portfolio Managers", 2000-2001
Instructor, CFA review courses, 1994-2002

MEMBERSHIP IN PROFESSIONAL SOCIETIES

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